

**5th Annual WebCT European User Conference 2006,
Edinburgh, Scotland 27 February – 1 March 2006**

Proposal Details

Title: Laboratory Courses in Materials Science Supported by WebCT-based E-Learning Modules

Abstract: Practical laboratory work is an indispensable part of university courses in engineering and sciences. The hands-on experience enables the students to deepen the knowledge they can get in other teaching forms like lectures and seminars. Classically, the guidance to laboratory classes is provided by printed material and supervision by profs and assistants.

The combination of practical laboratory work with multimedia guidance and preparation can help to make better use of available laboratory capacity especially when there is only a limited number of supervising staff available. Modern forms of instruction like video clips and animated manuals can provide information to the students they did not get so far in classical courses. Cross-linking this information with material for preparing the courses, self-control instruments like questions to be answered before being admitted to run the experiments as well as hints and tools for delivering correct reports are provided. Also available are manuals for all the instrumentation used, glossary etc. The degree of supervision can be set according to the individual conditions at each university.

The authors have realized multimedia supported (on a WebCT platform) laboratory classes on electrochemistry and corrosion failure analysis. Transfer to other lab classes is easily possible.

Description: Practical laboratory work is indispensable in engineering and science education. Their efficiency can be greatly improved by combining the hands-on experience in the lab with modern multimedia guidance and support. The preparation for the lab work can be made more effective by instructing video clips and animated manuals, cross-linked to background information, self-control instruments, glossary etc. This approach is an effective tool to provide high quality lab courses even with limited supervising staff.

Proposal Type: Showcase

Conference Tracks: Enabling learning: Effective institutional practices and flexible design models

Audience Types: Faculty and other Instructors, Course Designers

Audience Levels: Beginning or New Users of WebCT

WebCT version: WebCT Campus Edition

Name: Richter, Constance

Position: Dipl.-Ing. (FH)

Institution: Aalen University

Additional Presenters: Thomas L. Ladwein, Aalen University